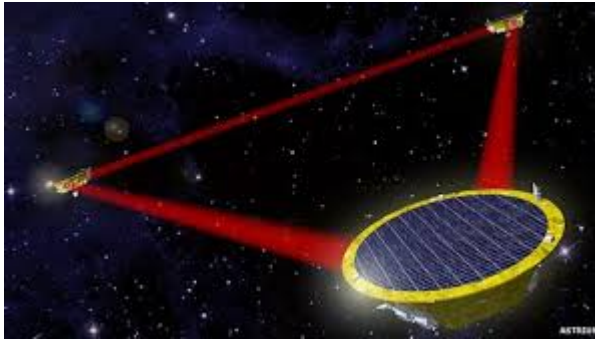


Round table : data analysis

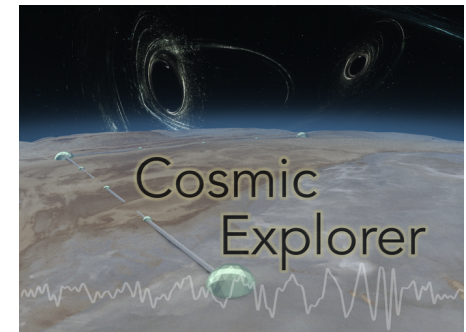
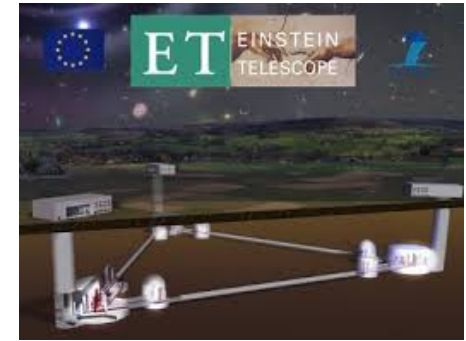
today



today



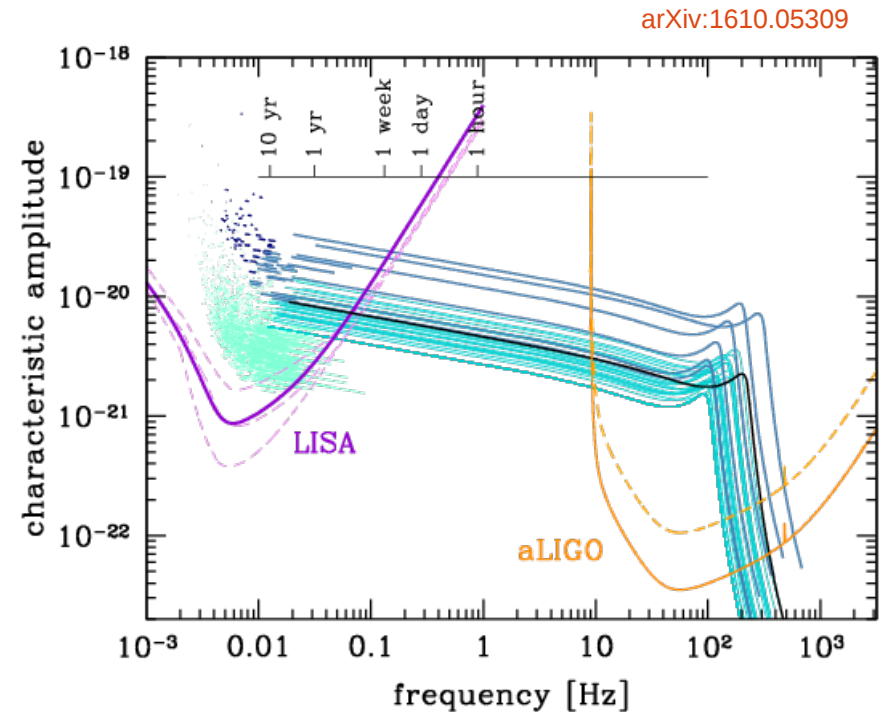
tomorrow



The context

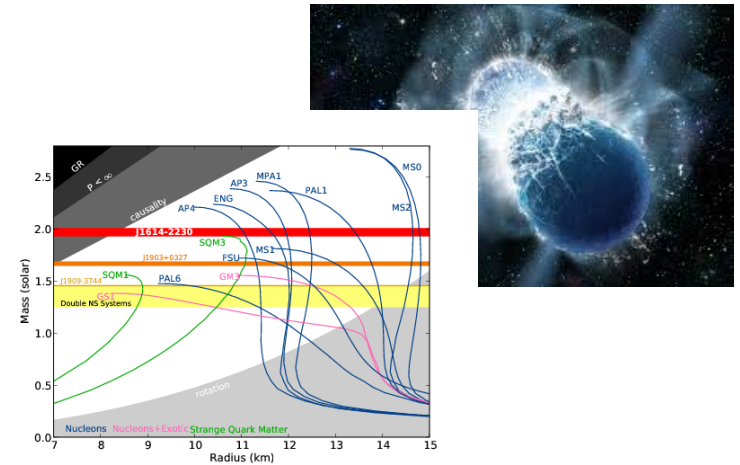
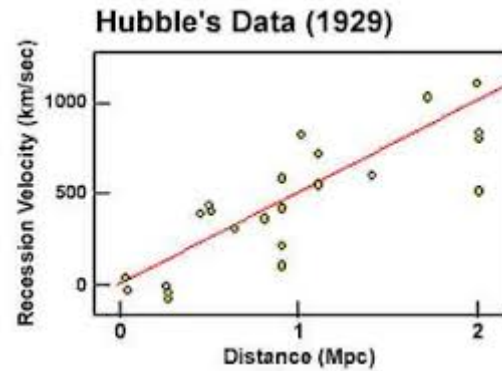
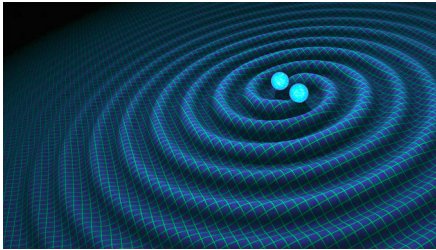
- A « single machine » in frequency a large band [mHz → 10kHz]
 - High frequency : LIGO-Virgo-KAGRA / aLIGO+ AdV+ Indigo KAGRA+ / ET CE → Lots of know-how
 - Low frequency : LISA

- Multi-strategy :
 - Joint searches with heterogeneous machines
 - Multi-band GW astronomy



- **Missions:**
 - Find all GW sources in GW detectors data.
 - Extract all possible physics results : Fundamental physics tests and measurements : H_0 , graviton celerity, test of equivalence principle, constrain the nuclear matter EOS, ...
 - Provide alerts to the outside world and especially to « observers » (multi-messenger analysis).

The subject



GW sources discovery
GW physics extraction

Multi-messenger analysis
Astronomy / astrophysics



Detector based collaborations

Data management plans
→ data release policy

The means

- Computing :
 - Huge need to « improve » the AdV+ computing model. France contribution is close to null. Current lack of FTE investissement.
 - Computing demands will only increase with time/new detectors.
 - LISA France responsable of the DPC.
 - Advanced technics R&D.

Lots of opportunities to contribute to GW physics computing.